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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/924,308

08/06/2001

Nischal Abrol

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08/24/2005

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

NG, CHRISTINE Y

ART UNIT

PAPER NUMBER

2663

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,308

Applicant(s)

ABROL ET AL.

Examiner

Christine Ng

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13, 18, 19, 23-34, 36-42, 47, 48, 52-70, 73-89, 91-94 and 97-105 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 7-13, 18, 23, 30-34, 36-42, 47, 52, 59-67, 73-78, 88, 89, 91-94 and 97-101 is/are allowed.
- 6) ☒ Claim(s) 19, 24-27, 48, 53-56, 68-70, 79, 80, 83-87, 102 and 103 is/are rejected.
- 7) ☒ Claim(s) 28, 29, 57, 58, 81, 82, 104 and 105 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 19 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Patent No. 6,665,673 to Petersen et al.

Salzwedel et al disclose a method of determining a valid payload in a frame, comprising:

Identifying a frame (Figure 2) having a payload (segments 202-206) with a first value (checksum 224) appended thereto. Refer to Column 3, line 64 to Column 4, line 32.

Calculating a second value (calculated checksum) as a function of a subset (last segment 206) of the payload (segments 202-206).

Comparing the second value (calculated checksum) to the first value (checksum 224).

Detecting a valid payload as a function of the comparison wherein the payload comprises a plurality of bytes. Refer to Column 4, lines 55-65 and Column 5, line 55 to Column 6, line 19.

Identifying a length field (length indicator 222) in the frame indicating the number of bytes in the payload. Refer to Column 4, lines 19-24.

Salzwedel et al do not disclose determining whether the number of payload bytes indicated by the length field exceeds a threshold, the valid frame detection further being a function of the length field determination.

Petersen et al disclose in Figure 6 a frame with a payload length field 620. The frame "may not be valid if the length is too long" (as inherently compared to a threshold) and if the frame is invalid, "it may not be forwarded". Refer to Column 10, lines 44-55 and Column 11, lines 42-48. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include determining whether the number of payload bytes indicated by the length field exceeds a threshold, the valid frame detection further being a function of the length field determination; the motivation being to avoid transmitting too large frames.

3. Claims 24, 26, 27, 53, 55, 56, 79, 80, 102 and 103 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Publication No. 2002/0036993 to Park et al.

Referring to claims 24, 53, 79 and 102, Salzwedel et al disclose a method for determining a valid payload in a frame comprising:

Identifying a frame (Figure 2) having a payload (segments 202-206) with a first value (checksum 224) appended thereto. Refer to Column 3, lines 19-21 and Column 3, line 64 to Column 4, line 32.

Calculating a second value (calculated checksum) as a function of a subset (last segment 206) of the payload (segments 202-206).

Comparing the second value (calculated checksum) to the first value (checksum 224).

Detecting a valid payload as a function of the comparison. Refer to Column 4, lines 55-65 and Column 5, line 55 to Column 6, line 19.

Salzwedel et al do not disclose wherein the first value is appended to the beginning of the payload, the frame further comprising a third value appended to the end of the payload, the method further comprising calculating a fourth value as a function of a second subset of the payload, and comparing the fourth value to the third value, the valid payload detection being a function of both the comparison of the first value to the second value and the comparison of the third value to the fourth value.

Park et al disclose in Figure 6 a frame including two checksums, CRC1 640 and CRC2 660. CRC1 640 is calculated by checksumming the bits of the SR-ID field 610, the reserved field 620, and the length indicator field 630; the CRC2 660 is calculated by checksumming the bits of the length indicator field 630. As shown in Figure 7, the receiver performs error checking using both CRC1 640 (step 720) and CRC2 660 (step 740). Refer to Sections 0035 and 0038. Park et al do not disclose error checking by calculating a checksum and comparing it to the received checksum. However, Salzwedel et al disclose that a common approach to error checking is computing a checksum and comparing it to the received checksum and if there is a match, the frame is valid. Refer to Column 1, lines 31-45. Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to include wherein the first value is appended to the beginning of the payload, the frame further comprising a third value appended to the end of the payload, the method further comprising calculating a fourth value as a function of a second subset of the payload, and comparing the fourth value to the third value, the valid payload detection being a function of both the comparison of the first value to the second value and the comparison of the third value to the fourth value. One would be motivated to do so in order to provide two levels of error correction and protection.

Referring to claims 26 and 55, Salzwedel et al disclose in Figure 2 that the payload comprises a plurality of bytes, the method further comprising identifying a length field (length indicator 222) in the frame indicating the number of bytes in the payload. Refer to Column 4, lines 19-24.

Referring to claims 27 and 56, Salzwedel et al do not disclose that the calculation of the second value and the calculation of the fourth value are both further a function of the length field.

Park et al disclose in Figure 6 a frame including two checksums, CRC1 640 and CRC2 660. CRC1 640 is calculated by checksumming the bits of the SR-ID field 610, the reserved field 620, and the length indicator field 630; the CRC2 660 is calculated by checksumming the bits of the length indicator field 630. Both CRC1 640 and CRC2 660 are functions of the length indicator field 630. Refer to Section 0035. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the calculation of the second value and the calculation of the fourth

value are both further a function of the length field; the motivation being to adjust the error checking to the length of the payload.

Referring to claims 80 and 103, refer to the rejection of claims 26 and 55 and claims 27 and 56.

4. Claims 25 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Publication No. 2002/0036993 to Park et al, and in further view of U.S. Patent No. 6,674,770 to Jarfjord.

Salzwedel et al do not disclose that the valid payload detection further comprises confirming a stop flag within the frame immediately following the third value.

Jarfjord disclose that a stop flag is added at the end of a frame to identify the frame end. Refer to Column 1, lines 15-35. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the valid payload detection further comprises confirming a stop flag within the frame immediately following the third value; the motivation being so that the receiver can detect when the present frame ends and the subsequent frame begins, thereby facilitating data reception and synchronization.

5. Claims 68 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al.

Salzwedel et al disclose in Figure 1 a communications device (handset 104), comprising:

A processor (processor 118) configured to delimit frame boundaries of a payload (Figure 2), calculate a value (checksum 224) as a function of a subset (last segment

206) of the payload (segments 202-206), and append the value to the payload within the frame boundaries. Refer to Column 3, lines 19-21 and Column 3, line 64 to Column 4, line 32.

A transmitter (TX 110) configured to transmit the processed frame.

A receiver (RX 108) configured to receive a second frame having a second payload with a second value appended thereto, the processor further being configured to calculate a third value (checksum 224) as a function of a second subset (last segment 206) of the second payload (segments 202-206), compare the third value to the second value, and detect a valid second payload as a function of the comparison. Refer to Column 5, line 55 to Column 6, line 32.

Salzwedel et al do not specifically disclose that the transmitter transmits a first frame and the receiver receives a second frame. However, a system processes multiple frames and not just one frame. Furthermore, the receiving unit includes a processor that computes a checksum using the same operation as the operation the transmitting unit uses to calculate the checksum. Refer to Column 1, lines 31-46. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the transmitter and receiver process separate frames, the motivation being so that the system can support multiple frames.

6. Claims 69, 70, 86 and 87 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Publication No. 20020101832 to Chen et al.

Salzwedel et al do not disclose that the transmitter in the computer comprises a

wireless, CDMA transmitter/receiver.

Chen et al disclose in Figure 1 that a wireless computer 12 with a CDMA transmitter/receiver. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to disclose that the computer comprises a wireless, CDMA transmitter/receiver, the motivation being that CDMA is a wireless protocol that allows frequency reuse since devices share the same carrier frequency isolated by different codes and wireless computers are readily capable of moving from location to location. Refer to Sections 0004 and 0037-0041.

7. Claims 83 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,675,591 to Salzwedel et al in view of U.S. Publication No. 2002/0036993 to Park et al, and in further view of U.S. Publication No. 20020101832 to Chen et al. Refer to the rejection of claims 69, 70, 86 and 87.

Allowable Subject Matter

8. Claims 1-5, 7-13, 18, 23, 30-34, 36-42, 47, 52, 59-67, 73-78, 88, 89, 91-94 and 97-101 are allowed.

9. Claims 28, 29, 57, 58, 81, 82, 104 and 105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng *W*
August 16, 2005

Ricky Ngo
RICKY NGO
PRIMARY EXAMINER
8/22/05